

Date: Fri, 8 Apr 94 02:38:21 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #387
To: Info-Hams

Info-Hams Digest Fri, 8 Apr 94 Volume 94 : Issue 387

Today's Topics:

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 ECPA thrown out????
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How phasing SSB Exciters Work (Was: RF and AF speech processors)
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Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 7 Apr 94 17:15:37 GMT
From: agate!howland.reston.ans.net!vixen.cso.uiuc.edu!eagle.sangamon.edu!
kutzko@ucbvax.berkeley.edu
Subject: 6Y contest Dxpeditio annouement
To: info-hams@ucsd.edu

Hello, everybody. I will be operating the CQ WPX CW contest from
Kingston, Jamacia the last weekend in May. I'll be on the island MAY
25-May 30, and am trying to get a special call for the contest period
(I've asked for 6Y0DX). This will be a single op effort, all-band. I'll
also be on the air off and on before the contest, with both cw and ssb.

I'm also going to try some RS-12 activity.
Any questions, feel free to drop me a line.
73, see ya in the pileups-
Sean Kutzko KF9PL
Springfield, IL

Date: Wed, 6 Apr 1994 16:16:08 GMT
From: ihnp4.ucsd.edu!swrinde!sgiblab!wetware!spunky.RedBrick.COM!psinntp!psinntp!
arrrl.org!zlau@network.ucsd.edu
Subject: A novice needs some help!
To: info-hams@ucsd.edu

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <940329141512_4@ccm.hf.intel.com> Cecil_A_Moore@ccm.hf.INTel.COM
(Cecil A Moore) writes:
: >>...tell me if I can buy a pair of ham-radios for me and my
: >>friend in some other country and talk whenever we want?
: >>Giridhar Tatavarti

: That's because you didn't tune *high* enough Cecil. :-)

: The amateur satellites are extremely predictable, can offer near
: global communications, don't require maximum legal power, and aren't
: as much at the whim of the solar cycle. The phone companies quit using
: high power HF SSB for international circuits years ago. It's time more
: amateurs learned they don't need that sort of setup either to work
: stations in other countries.

True, but the poster wanted to communicate according to their
schedule, not the schedule of some satellite(s). A couple
of geostationary satellites would do nicely toward filling
this need, but I don't see the \$\$\$ being available for it
anytime soon. In fact, I think AMSAT would like to see
more contributions for the Phase 3D satellite...

Amateur radio is generally a poor way of saving money spent on
telephone bills. Yes, there have been people that have done it,
but for each case in which it works, there are numerous examples
where it won't.

--
Zack Lau KH6CP/1 2 way QRP WAS
 8 States on 10 GHz
Internet: zlau@arrrl.org 10 grids on 2304 MHz

Date: 7 Apr 94 17:00:56 GMT
From: news-mail-gateway@ucsd.edu
Subject: ECPA thrown out????
To: info-hams@ucsd.edu

Hi--

I have been hearing quite a few rumors floating around recently that the supreme court threw out some, if not all of the Electronic Communications Privacy Act. Any heard ??

Personally I think it would be great..then I can--legally--listen to cellular phones agn. 73's & thanx.....Gary AA9JS
email: st1860@siucvmb.siu.edu

Date: 7 Apr 94 12:57:12 GMT
From: news-mail-gateway@ucsd.edu
Subject: EME Programs
To: info-hams@ucsd.edu

In response to the recent request for leads to PC programs helpful to EME operators, may I suggest "SKYMOON" by W5HN. While I don't operate EME, I've seen Dave use it a few times and it looks very nice. The fact that W5HN has the first DXCC on 144 MHz shows it can't be TOO bad.
73 de Bob w3otc@amsat.org

Date: 7 Apr 1994 02:24:54 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!vixen.cso.uiuc.edu!
moe.ksu.ksu.edu!kuhub.cc.ukans.edu!paperboy.ids.net!anomaly!der@network.ucsd.edu
Subject: FT2400 mic connector pinouts?
To: info-hams@ucsd.edu

Does anyone know the pinout for the modular connector on the 2400?
I want to build an 8-pin din adapter for it but didn't get the docs with the radio.

Please email replies as I don't get to read news too often.

Thanks,

Dave

Date: Thu, 7 Apr 1994 01:08:14 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!
nntp.cs.ubc.ca!cs.ubc.ca!nebulus!stan@network.ucsd.edu
Subject: HELP Standard GX3000U
To: info-hams@ucsd.edu

HELP!

I have a Standard GX3000U(AA) that I would love to use on the
Amateur band. Unfortunately, the Standard EPROM burner and software
don't currently like this freq range.

Any Ideas?

Has this been done before?

If so HOW?

Help or ideas would be greatly appreciated.

Thanks.....73.....Stan VE7HHk

Date: Wed, 6 Apr 1994 16:27:10 GMT
From: ihnp4.ucsd.edu!swrinde!sgiblab!wetware!spunky.RedBrick.COM!psinnntp!psinnntp!
arrrl.org!jbbloom@network.ucsd.edu
Subject: How phasing SSB Exciters Work (Was: RF and AF speech pr
To: info-hams@ucsd.edu

Alan Bloom (alanb@sr.hp.com) wrote:

: I have often thought, though, that the Weaver method would be well-suited
: to implementation in a DSP, since you can get mathematically perfect
: carrier suppression.

See "A Weaver Method SSB Modulator Using DSP," September, 1993 QEX,
by Carlos M. Puig, KJ6ST, and "A Simple SSB Receiver Using a Digital
Down Converter," March, 1994 QEX, by Peter Traneus Anderson, KC1HR
for examples of DSP-based Weaver-method SSB generation and detection.

--

Jon Bloom KE3Z jbbloom@arrrl.org

Date: 7 Apr 94 17:07:05 GMT
From: hp-cv!hp-pcd!hpcvsnz!tomb@hplabs.hp.com
Subject: How phasing SSB Exciters Work (Was: RF and AF speech processors)
To: info-hams@ucsd.edu

Wayne Covington (wayne@fc.hp.com) wrote:

: Another interesting case is to start with a conventional elliptic function
: bandpass response, then proceed to the two networks with flat group delay
: and 90 degree phase difference, keeping the nice elliptic magnitude response.
: The finite jw-axis zeros may well wreak havoc -- with the number of poles
: and zeros (for the same overall tolerances on amplitude and phase errors as
: you have above) increasing significantly.

If you look at this a little differently, it's easy to see that the number of poles & zeros shouldn't be significantly affected. Come up with a pair of filters for quadrature phase that you are happy with for amplitude and phase matching. Add the same zeros and/or poles to both. Then the amplitude and phase matching will be unchanged. However, it should be easier to put the frequency shaping outside the quadrature phase network, since it can then be guaranteed to be identical for both channels. Leave the quadrature network all-pass; if you wish, shape its absolute phase to compensate the frequency-shaping filter. At least, that is how I'd approach it if I were constrained to do it analog.

Date: Wed, 06 Apr 1994 12:43:34 GMT
From: agate!usenet.ins.cwru.edu!news.ysu.edu!malgudi.oar.net!witch!ame!
psl@ames.arpa
Subject: Operation of Ham radios on planes
To: info-hams@ucsd.edu

David & Wes,
In article <1994Apr4.073149.1@matrix.cs.wright.edu>, isoper@matrix.cs.wright.edu
(isoper@matrix.cs.wright.edu) writes:

>>
>> anyone know where the official rules on this might be found?
>> the FCC rule book? the FAA's version of a rule book? i'd just
>> like to be able to point to some "official" document that says
>> yea, nay, or depends.

>> --

>> David Vangerov, KD6WXQ

>

>David,

> I believe you will find reference to this in the Federal Aviation
> Regulations (FAR) published by the FAA. I cannot remeber the exact part
> number of the FAR it is in but, go to your local general aviation
> airport and ask the clerk who sell pilot accessories that you wish to
> purchase a copy of the FAR. I think it might be in part 75 but I am not
> really sure, and my copy of the FAR is at home. I do know part 135 covers
> commerical operations so, it might be in that section also.

>

>73, Wes WB8CEH

>

>ps: It will be the section covering "electronic devices" they do not
>specifically single out handhelds as a separate item.

>

>

The exact reference is FAR 91.21. This section prohibits the use of all portable electronic devices except voice recorders, hearing aids, pacemakers, electric razors, or (and this is the important part) "any other portable device that the OPERATOR of the aircraft has determined will not cause interference with the navigation or communication system of the aircraft on which it is to be used." I capitalized operator because most commercial airlines have rules regarding operation which take it out of the pilot's hand. However, private operations are normally dictated by the pilot-in-command (I operate from my aircraft quite often).

It is also important to note that this rule only applies to aircraft being operated commercially or on any aircraft being operated IFR (instrument flight rules).

Hope this helps. You will see many claims about operating in the air on commercial aircraft with "no harm done". In the USA, this is ILLEGAL on all of our domestic carriers. Also, taking the stance that "it never caused any problem when I did it, so it must be ok." is looking the problem with blinders on. Nearby RF transmission affects all receivers, if not by direct interference, then by desensitizing the front ends. 99% of the time, there will be no harm done, but that 1% can be deadly in an aircraft! Talk to an airline pilot about those laptops and CD players that are now banned by some airlines during departure and approach. Even the low amount of RF from those devices can cause havoc in the cockpit.

By the way, the rule is a FLIGHT rule, therefore there is no restriction on operation in and around airports (other than the normal interference rules).

Hope this helps.

73,

Pete WB0FEW

PS. Cellular phones are illegal to use in the air by FCC regulation. There are NO exceptions to that rule in the USA.

Date: 8 Apr 94 05:12:00 GMT

From: news-mail-gateway@ucsd.edu
Subject: ORBS\$098.MICRO.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-098.D
Orbital Elements 098.MICROS

HR AMSAT ORBITAL ELEMENTS FOR THE MICROSATS
FROM WA5QGD FORT WORTH, TX April 8, 1994
BID: \$ORBS-098.D
TO ALL RADIO AMATEURS BT

Satellite: UO-14
Catalog number: 20437
Epoch time: 94094.18864115
Element set: 978
Inclination: 98.5904 deg
RA of node: 179.9647 deg
Eccentricity: 0.0011994
Arg of perigee: 50.9587 deg
Mean anomaly: 309.2663 deg
Mean motion: 14.29834719 rev/day
Decay rate: 6.3e-07 rev/day^2
Epoch rev: 21901
Checksum: 351

Satellite: AO-16
Catalog number: 20439
Epoch time: 94093.26738149
Element set: 778
Inclination: 98.6001 deg
RA of node: 180.2108 deg
Eccentricity: 0.0012270
Arg of perigee: 53.9212 deg
Mean anomaly: 306.3104 deg
Mean motion: 14.29889216 rev/day
Decay rate: 7.6e-07 rev/day^2
Epoch rev: 21889
Checksum: 309

Satellite: DO-17
Catalog number: 20440
Epoch time: 94093.71879587
Element set: 777
Inclination: 98.5997 deg
RA of node: 180.9543 deg
Eccentricity: 0.0012412
Arg of perigee: 51.3730 deg

Mean anomaly: 308.8563 deg
Mean motion: 14.30028150 rev/day
Decay rate: 5.8e-07 rev/day^2
Epoch rev: 21897
Checksum: 330

Satellite: W0-18

Catalog number: 20441
Epoch time: 94094.25256090
Element set: 779
Inclination: 98.6007 deg
RA of node: 181.4888 deg
Eccentricity: 0.0013013
Arg of perigee: 50.7174 deg
Mean anomaly: 309.5160 deg
Mean motion: 14.30003284 rev/day
Decay rate: 4.9e-07 rev/day^2
Epoch rev: 21905
Checksum: 288

Satellite: L0-19

Catalog number: 20442
Epoch time: 94093.74592051
Element set: 777
Inclination: 98.6010 deg
RA of node: 181.2260 deg
Eccentricity: 0.0013246
Arg of perigee: 51.9430 deg
Mean anomaly: 308.2937 deg
Mean motion: 14.30098281 rev/day
Decay rate: 6.0e-07 rev/day^2
Epoch rev: 21899
Checksum: 297

Satellite: U0-22

Catalog number: 21575
Epoch time: 94096.62196308
Element set: 480
Inclination: 98.4392 deg
RA of node: 172.5493 deg
Eccentricity: 0.0008170
Arg of perigee: 138.1574 deg
Mean anomaly: 222.0255 deg
Mean motion: 14.36905377 rev/day
Decay rate: 1.04e-06 rev/day^2
Epoch rev: 14280
Checksum: 303

Satellite: K0-23
Catalog number: 22077
Epoch time: 94093.90979456
Element set: 374
Inclination: 66.0795 deg
RA of node: 75.4986 deg
Eccentricity: 0.0012237
Arg of perigee: 305.4986 deg
Mean anomaly: 54.4889 deg
Mean motion: 12.86285631 rev/day
Decay rate: -3.7e-07 rev/day^2
Epoch rev: 7723
Checksum: 354

Satellite: A0-27
Catalog number: 22825
Epoch time: 94095.20620110
Element set: 275
Inclination: 98.6598 deg
RA of node: 171.7361 deg
Eccentricity: 0.0009638
Arg of perigee: 62.0236 deg
Mean anomaly: 298.1903 deg
Mean motion: 14.27616610 rev/day
Decay rate: 4.8e-07 rev/day^2
Epoch rev: 2727
Checksum: 304

Satellite: I0-26
Catalog number: 22826
Epoch time: 94094.70192756
Element set: 275
Inclination: 98.6593 deg
RA of node: 171.2616 deg
Eccentricity: 0.0010140
Arg of perigee: 64.2606 deg
Mean anomaly: 295.9612 deg
Mean motion: 14.27719595 rev/day
Decay rate: 5.2e-07 rev/day^2
Epoch rev: 2720
Checksum: 312

Satellite: K0-25
Catalog number: 22830
Epoch time: 94093.74818451
Element set: 278
Inclination: 98.5599 deg
RA of node: 168.3571 deg

Eccentricity: 0.0012553
Arg of perigee: 37.4701 deg
Mean anomaly: 322.7354 deg
Mean motion: 14.28044298 rev/day
Decay rate: 5.9e-07 rev/day^2
Epoch rev: 2707
Checksum: 325

/EX

Date: 8 Apr 94 05:09:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS\$098.OSCAR.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-098.0
Orbital Elements 098.OSCAR

HR AMSAT ORBITAL ELEMENTS FOR OSCAR SATELLITES
FROM WA5QGD FORT WORTH,TX April 8, 1994
BID: \$ORBS-098.0
TO ALL RADIO AMATEURS BT

Satellite: AO-10
Catalog number: 14129
Epoch time: 94093.93015575
Element set: 273
Inclination: 27.1781 deg
RA of node: 334.0078 deg
Eccentricity: 0.6020533
Arg of perigee: 167.5108 deg
Mean anomaly: 219.1680 deg
Mean motion: 2.05877978 rev/day
Decay rate: -1.05e-06 rev/day^2
Epoch rev: 8125
Checksum: 301

Satellite: UO-11
Catalog number: 14781
Epoch time: 94096.58268703
Element set: 679
Inclination: 97.7904 deg
RA of node: 114.6531 deg
Eccentricity: 0.0012422
Arg of perigee: 134.3680 deg
Mean anomaly: 225.8545 deg

Mean motion: 14.69185628 rev/day
Decay rate: 3.27e-06 rev/day^2
Epoch rev: 53979
Checksum: 341

Satellite: RS-10/11
Catalog number: 18129
Epoch time: 94096.18122248
Element set: 887
Inclination: 82.9274 deg
RA of node: 22.0643 deg
Eccentricity: 0.0010248
Arg of perigee: 220.6223 deg
Mean anomaly: 139.4177 deg
Mean motion: 13.72334834 rev/day
Decay rate: 6.7e-07 rev/day^2
Epoch rev: 34003
Checksum: 288

Satellite: A0-13
Catalog number: 19216
Epoch time: 94091.48205291
Element set: 898
Inclination: 57.8647 deg
RA of node: 260.1651 deg
Eccentricity: 0.7210810
Arg of perigee: 338.2200 deg
Mean anomaly: 2.3008 deg
Mean motion: 2.09726624 rev/day
Decay rate: -4.61e-06 rev/day^2
Epoch rev: 4440
Checksum: 282

Satellite: F0-20
Catalog number: 20480
Epoch time: 94093.91224327
Element set: 673
Inclination: 99.0286 deg
RA of node: 259.8058 deg
Eccentricity: 0.0541198
Arg of perigee: 147.6860 deg
Mean anomaly: 215.8633 deg
Mean motion: 12.83224718 rev/day
Decay rate: -4.3e-07 rev/day^2
Epoch rev: 19460
Checksum: 323

Satellite: A0-21

Catalog number: 21087
Epoch time: 94096.76922921
Element set: 451
Inclination: 82.9460 deg
RA of node: 195.5516 deg
Eccentricity: 0.0033925
Arg of perigee: 284.0542 deg
Mean anomaly: 75.6843 deg
Mean motion: 13.74537051 rev/day
Decay rate: 9.3e-07 rev/day^2
Epoch rev: 15977
Checksum: 326

Satellite: RS-12/13
Catalog number: 21089
Epoch time: 94095.92841184
Element set: 677
Inclination: 82.9188 deg
RA of node: 65.0333 deg
Eccentricity: 0.0028619
Arg of perigee: 312.8771 deg
Mean anomaly: 46.9979 deg
Mean motion: 13.74038159 rev/day
Decay rate: 3.4e-07 rev/day^2
Epoch rev: 15872
Checksum: 348

Satellite: ARSENE
Catalog number: 22654
Epoch time: 94089.09349977
Element set: 248
Inclination: 1.5156 deg
RA of node: 104.5135 deg
Eccentricity: 0.2923641
Arg of perigee: 175.5080 deg
Mean anomaly: 188.1427 deg
Mean motion: 1.42202601 rev/day
Decay rate: -1.05e-06 rev/day^2
Epoch rev: 7
Checksum: 273

/EX

Date: 7 Apr 94 18:46:29 GMT
From: news-mail-gateway@ucsd.edu
Subject: STS-59 SAREX Flight Information

To: info-hams@ucsd.edu

SB SAREX @ AMSAT \$STS-59.002
STS-59 SAREX Flt Info

Launch of next SAREX mission imminent

The next Shuttle Amateur Radio Experiment (SAREX) mission is ready for launch at the Kennedy Space Center in Florida. This flight, designated STS-59, is scheduled for launch on Friday April 8 at 12:06 UTC. Weather conditions could cause the launch to move forward or back by one hour. STS-59 will carry Jay Apt, N5QWL and Linda Godwin, N5RAX on a nine day mission which will include packet radio and some voice operations. A SAREX fact sheet, courtesy of Jay Apt, the ARRL and AMSAT follows. Note that during this mission, the JSC ARC, W5RRR, expects to retransmit NASA Select audio on A0-13. The planned downlink frequency will be 145.84 MHz. In addition the JSC ARC crew in Houston have set up a dial-in BBS which is now in operation. Orbital elements will be available on this machine throughout the mission. The phone number for the BBS is (713) 244-5625. Please use 9600 baud or less.

SAREX FACT SHEET - STS-59

WHO: Space Shuttle Endeavour crew

WHAT: Talk via Amateur Radio with students and radio amateurs on Earth.

WHERE: Earth Orbit. Altitude 220 kilometers, with radio coverage in latitudes from 70 degrees North to 70 degrees South. This flight is in one of the lowest altitude orbits ever flown by the shuttle, so pass times will be shorter than usual.

OPERATORS: Dr. Jay Apt (N5QWL) and Dr. Linda Godwin N5RAX.

N5QWL is the commander of the Blue Shift aboard Endeavour and will operate the shuttle systems during the "night" shift, while N5RAX is the Payload Commander, responsible for overall operation of three large radars in the shuttle's cargo bay during the "day" shift.

WHEN: April 8, 1994 at 12:06 UTC (9 day mission)

WHY: As part of the Shuttle Amateur Radio EXperiment (SAREX) component of the STS-59 mission.

SPONSORS: The American Radio Relay League (ARRL), The Radio

Amateur Satellite Corporation (AMSAT) and
The National Aeronautics and Space Administration
(NASA).

SAREX MODES: FM Voice and Packet
 VOICE CALL SIGNS: N5QWL and N5RAX
 PACKET CALL SIGN: W5RRR-1

SAREX RADIO FREQUENCIES:

Voice Downlink: (Worldwide) 145.55 MHz
Voice Uplink: 144.91, 144.93, 144.95, 144.97, 144.99 MHz
Voice Uplink: (Europe only) 144.70, 144.75, 144.80 MHz
Packet Downlink: 145.55 MHz
Packet Uplink: 144.49 MHz

Successful QSOs on voice will be facilitated by using
standard international phonetics for your call sign.
The crew not answer any stations using non-standard
phonetics. Use your entire call sign -- the crew logs with an
audio tape recorder. Do not use the Shuttle call sign --
passes are very short, and the crew wants to work as many
folks as possible.

If you can, decrease your radio's deviation to 3 KHz (most are
initially set at 5 KHz) and compensate for the Doppler shift. If
you cannot, wait until a minute or 90 seconds after the Shuttle comes over
your horizon to transmit -- that will put you within the SAREX IF. The above
applies to both voice and packet.

INFORMATION: Goddard Amateur Radio Club, Greenbelt, MD, WA3NAN. SAREX
news and NASA Mission audio retransmissions on 3.86, 7.185,
14.295, 21.395, and 28.65 MHz and on VHF at 147.45 MHz.

Johnson Space Center Amateur Radio Club, Houston, TX, W5RRR.
SAREX news bulletins on HF bands at 3.850, 7.227, 14.280,
21.350, and 28.400 MHz and VHF at 146.64 MHz.
Also 145.84 on AO-13 at times

ARRL, Newington, CT, W1AW.
SAREX news bulletins (9:45 PM, 12:45 AM EST) on
HF bands at 3.99, 7.29, 14.29, 18.16, 21.39, 28.59
and VHF at 147.555 MHz.

PARTICIPATING

SCHOOLS: Ealy Elementary School, West Bloomfield, MI

Kanawha Elementary School Davisville, WV
Alcatel Amateur Radio Association and Circle 10 Council-BSA
Richardson, TX
Anthony Elementary, Anthony, KS
St. Bernard High School, Playa Del Rey, CA
Country Club School, San Ramon, CA 94583
Deep Creek Middle School, Baltimore, MD 21221
Paltamo Senior High School, Paltamo Finland
Ogilvie School, Northampton, Western Australia

OPERATIONS NOTES:

If you have a packet QSO number issued to you by the robot, don't try to get another one! The on-board program drops the duplicates anyhow, and all you are doing is making it harder for the other folks. A QSL card will be issued if you appear in the "heard" list on the TNC.

N5QWL will be asleep over most USA passes, and N5RAX will be busy with assigned duties for most daylight US passes, so if the sun is up, try SAREX on packet. The Shuttle crew will try to work voice (1) when we are not otherwise engaged, and (2) at night or when the ground is cloudy (we are generally busy taking pictures of the Earth during clear daylight passes).

If Jay Apt can get to it, he will activate the SAREX about 3 hours into the mission.

QSL via: ARRL, ATTN: STS-59 QSLs, 225 Main Street, Newington, CT 06111, USA. Include a self-addressed stamped envelope (SASE). Non-US stations include a self addressed envelope with \$0.50 of US postage affixed or appropriate IRCs. Include the Callsign worked, Date, UTC, Mode, and Frequency. For packet contacts, include the QSO number issued by the robot. SWL QSL's: Include the Callsign heard, Date, UTC, Mode, and Frequency.

STS-59 Keplerian elements for a 12:06 UTC launch:

STS-59

1	00059U	94098.74878017	.00221188	000000-0	11303-3	0	80	
2	00059	57.0053	277.0416	0009259	269.9963	90.0094	16.19806752	54

Satellite: STS-59

Catalog number: 00059

Epoch time: 94098.74878017 = (08 APR 94 17:58:14.61 UTC)

Element set: 008
Inclination: 57.0053 deg
RA of node: 277.0416 deg Space Shuttle Flight STS-59
Eccentricity: .0009259 Prelaunch Element set JSC-008
Arg of perigee: 269.9963 deg Launch: 08 APR 94 12:06 UTC
Mean anomaly: 90.0094 deg
Mean motion: 16.19806752 rev/day G. L. Carman
Decay rate: 2.21188e-03 rev/day^2 NASA Johnson Space Center
Epoch rev: 5
Checksum: 325

Submitted by Frank Bauer, KA3HDO for the SAREX Working Group

/EX

Date: 7 Apr 94 16:14:04 GMT
From: agate!howland.reston.ans.net!pipex!bnr.co.uk!corpgate!nrtpa038!brtph560!
nt.com!cmwdr01@ucbvax.berkeley.edu
To: info-hams@ucsd.edu

References <1994Apr5.222105.9528@newsgate.sps.mot.com>,
<CnunKr.6D3@world.std.com>, <1994Apr7.000403.29950@newsgate.sps.mot.com>
Subject : Need info on creating a Packet Repeater

Looking for information on designing and implementing a
Packet Repeater (not a digipeater, an actual dual frequency repeater).
I would also like to hear from anyone who has a packet repeater up and
running.
73 - Dave.

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End of Info-Hams Digest V94 #387

